a time; a user input device that enables a user of the portable media player to at least select a particular media item from the plurality of media items through a rotational action with respect to the user input device; and a processor that controls the portable media player to play the media content of the particular media item that was selected using the user input device.

[0013] As a method for interacting with a graphical user interface produced on a display device of a computing device, one embodiment of the invention includes at least the operations of: receiving a rotational movement associated with a user input action; converting the rotational movement into a linear movement; and applying the linear movement to at least one object of the graphical user interface.

[0014] As a method for interacting with a graphical user interface produced on a display device of a computing device, one embodiment of the invention includes at least the operations of: displaying a portion of a list of items; receiving a rotational movement associated with a user input action; converting the rotational movement into a linear movement; determining a next portion of the list of items based on at least the linear movement; and displaying the next portion of the list of items.

[0015] As a computer readable medium including at least computer program code for interacting with a graphical user interface produced on a display device of a computing device, one embodiment of the invention includes at least: computer program code for receiving a rotational movement associated with a user input action; computer program code for converting the rotational movement into a linear movement; and computer program code for applying the linear movement to at least one object of the graphical user interface.

[0016] Other aspects and advantages of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, illustrating by way of example the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present invention is illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

[0018] **FIG. 1A** is a perspective diagram of a computer system in accordance with one embodiment of the invention.

[0019] **FIG. 1B** is a perspective diagram of a media player in accordance with one embodiment of the present invention.

[0020] **FIG. 2A** is a block diagram of a media player according to one embodiment of the invention.

[0021] **FIG. 2B** is a block diagram of a computing system according to one embodiment of the invention.

[0022] **FIG. 3** shows the media player of **FIG. 1B** being used by a user in accordance with one embodiment of the invention.

[0023] **FIG. 4A** is a flow diagram of user input processing according to one embodiment of the invention.

[0024] **FIG. 4B** is a flow diagram of user input processing according to another embodiment of the invention.

[0025] **FIG. 5** is a flow diagram of user input processing according to another embodiment of the invention.

[0026] **FIG. 6** is a block diagram of a rotary input display system in accordance with one embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0027] The present invention relates to improved approaches for users of computing devices to interact with graphical user interfaces. According to one aspect of the invention, a rotational user action supplied by a user at a user input device is transformed into linear action with respect to a graphical user interface. According to another aspect of the invention, a portion of an extended list of items is displayed by a graphical user interface and, through rotational user actions at a user input device, the portion of the list being displayed can be varied with welcomed ease of use. Although the type of computing device can vary, the invention is particularly well-suited for use with a portable media player.

[0028] Other aspects of the invention will become apparent below. In any case, the aspects are not limiting and the various aspects of the invention can be used separately or in combination.

[0029] Embodiments of the invention are discussed below with reference to FIGS. **1A-6**. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes as the invention extends beyond these limited embodiments.

[0030] **FIG. 1A** is a perspective diagram of a computer system **50** in accordance with one embodiment of the invention. The computer system **50** includes a base housing **52** that encloses electronic circuitry that performs the computing operations for the computing system **50**. Typically, the electronic circuitry includes a microprocessor, memory, I/O controller, graphics controller, etc. The housing **52** also provides a removable computer readable medium drive **54** in which a removable computer readable medium can be placed so as to electronically or optically read data therefrom. The computer housing **52** is also coupled to a display device **56** on which a screen display can be presented for a user of the computer system **50** to view. Still further, the computer system **50** includes a keyboard apparatus **58**. The keyboard apparatus **58** allows a user to interact with a computer program (application program or operating system) performed by the computer system **50**. In this regard, the keyboard apparatus **58** includes a plurality of keys **60** and a rotational input unit **62**. The rotational input unit **62** allows a user to perform a rotational movement with respect to the rotational input unit **62**. The rotational movement can then be processed by the electronic circuitry of the computer system **50** and used to manipulate navigation or selection actions with respect to a graphical user interface being presented to the user on the display device **56**. The keyboard apparatus **58** can also include a button **64** associated with the rotational input unit **62**. As shown in **FIG. 1A**, the button **64** can be provided at a center region of the rotational input unit **62**. However, the button **64** can be placed elsewhere, such as outside the periphery of the rotational input unit **62**.